

WHAT IS CLAIMED IS:

1. Disk array controller comprising:

a host switch interface section that is connected to a host computer;

5 a plurality of respective disk array controlling units that are provided with a channel interface section interfacing with said host switch interface section, a disc interface section that is connected to a magnetic disc unit and a cache memory section that temporarily stores data as read out of or written into said magnetic disc unit; and

a mutual connection network in connection with the channel interface sections, the disc interface sections and the cache memory sections of said disk array controlling units,

10 wherein said cache memory sections perform a transfer of the data with the channel interface sections of said respective disk array controlling units.

2. Disk array controller according to claim 1 wherein said host switch interface section is provided with a management table that selects a path of the data transfer according to an address as requested by the host computer.

20 3. Disk array controller according to claim 2 wherein said data transfer path is a path between said host switch interface section and the channel interface sections of said respective disk array controlling units.

25 4. Disk array controller according to claim 2 wherein

10074156-021002

said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted according to a data volume thereof, wherein the specific path is selected on the basis of information of said history information table among the paths as selected by said path selection table.

5 5. Disk array controller according to claim 1 wherein one part of the respective disk array controlling units are provided with higher-speed cache memory sections than those of the other part thereof.

10 6. Disk array controller according to claim 2 wherein said respective disk array controlling units are provided with a resource management section that manages an operating ratio of the resources thereof and reports said operating ratio through an operating ratio report signal to said host switch interface section, wherein said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted based on said operating ratio report signal, wherein the specific path is selected based on information of said history table among the paths as selected by said path selection table.

15 7. Disk array controller comprising:

20 a host switch interface section that is connected to a

host computer;

10076456-021902  
10 a plurality of respective disk array controlling units  
that are provided with a channel interface section interfacing  
with said host switch interface section, a disc interface section  
5 that is connected to a magnetic disc unit and a cache memory  
section that temporarily stores data as read out of or written  
into said magnetic disc unit;

10 a first connection network in connection with the channel  
interface sections, the disc interface sections and the cache  
memory sections of said respective disk array controlling units;  
and

15 a second mutual connection network in connection with said  
host interface section and the channel interface sections of  
said respective disk array controlling units,

wherein said cache memory sections perform a transfer of  
the data with the channel interface sections of said respective  
disk array controlling units.

20 8. Disk array controller according to claim 7 wherein  
said host switch interface section is provided with a management  
table to select a path of the data transfer according to an address  
as requested by the host computer.

25 9. Disk array controller according to claim 8 wherein  
said data transfer path is a path between said second mutual  
connection network and the channel interface sections of said  
respective disk array controlling units.

10. Disk array controller according to claim 8 wherein said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted according to a data volume thereof, wherein the specific path is selected according to information of said history table among the paths as selected by said path selection table.

11. Disk array controller according to claim 7 wherein one part of the disk array controlling units are provided with higher-speed cache memory sections than those of the other part thereof.

12. Disk array controller according to claim 8 wherein the respective disk array controlling units are provided with a resource management section that manages an operating ratio of the resources thereof and reports said operating ratio through an operating ratio report signal to said host switch interface section, wherein said management table is provided with a path selection table with candidates for the data transfer paths in response to said address and a history information table in which the respective data transfer paths are weighted according to said operating ratio report signal, wherein the specific path is selected according to information of said history table among the paths as selected by said path selection table.